

ABSTRACT

A method for embedding and detecting watermark by a quantization of a characteristic value of a signal is disclosed. In order to embed watermark, first, a signal which will be watermarked is segmented in a predetermined time period, and a characteristic value with regard to a signal within the frame obtained therefrom is evaluated in a predetermined manner. Quantized values within a set corresponding to a value of pattern information embedded into the frame among a plurality of sets including one or more quantized value respectively is compared with each characteristic value so as to determine a quantized value closest to the characteristic value. The intensity of insertion used for modifying the signal within the frame in order to make the characteristic value same as the determined quantized value is evaluated, and the signal within the frame is modified based on the evaluated intensity of insertion. The watermark detection is performed in a similar process as the embedment. Accordingly, a method for embedding and detecting watermark which is especially suitable for authentication of audio signals is provided.